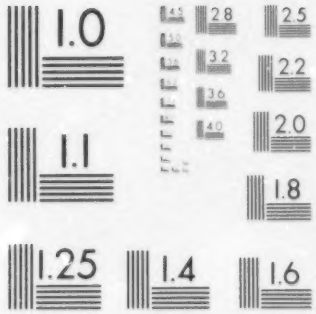


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ABSTRACT

This study was conducted (1) to identify the personal characteristics and career choices of ninth grade girls; (2) to isolate any personal characteristics of the girls that are associated with their career choices and that distinguish them from girls in other career groups; and (3) to detect any characteristics of their parents and of their schools that are associated with their career choices and that distinguish them from girls in other career groups. The student population consisted of 852 ninth grade girls at selected high schools within the Middle States region; the schools differed in size, location, control, ethnic composition, and percentage of graduates pursuing further education. Data were gathered by questionnaires administered at the schools and analyzed by multiple discriminant analysis. The results revealed able, motivated adolescent girls seeking academic planning, achievement opportunities, and support services. The largest number of girls selected health and medical careers, followed by those who chose the social sciences and related areas. The young women thought that it is more important to learn personal and interpersonal skills and to prepare for careers than to acquire academic competencies. They placed the greatest value on personal happiness. The study indicated that adolescent female students need academic, achievement, cocurricular accomplishment, and career exploration to help them achieve their objectives. (KC)

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# Characteristics and Career Choices of Adolescent Girls

Maureen Welsh, S.H.C.J.

College Board Report No. 83-3

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College Entrance Examination Board, New York, 1983

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## ABSTRACT

Ninth-grade girls choose careers compatible with their interests, values, activities, and competencies; indeed, they reproduce salient characteristics as career aspirations. Discriminant analysis reduced 225 characteristics to 30 (18 personal, 7 parental, 5 school) and distinguished among girls in the five major career groups of the Admissions Testing Program.

Unlike recent national reports describing a "rising tide of mediocrity" in American public schools, this study of 850 girls in Middle States schools (differing in size, control, location, ethnic composition, and percentage of graduates pursuing further education) reveals able, motivated adolescent girls seeking academic planning, achievement opportunities, and support services. The study indicates that adolescent female students need academic achievement, cocurricular accomplishment, and career exploration.

## INTRODUCTION

Increasingly, young American women have been choosing careers in law, business, engineering, and computer science. Less frequently, they have chosen careers in education and social services. Such choices may reflect the current economy, may indicate that as the role of women changes, the preferences of young women for certain "nontraditional" careers change, and/or may demonstrate that more women feel free to be themselves.

Career choices during adolescence may be related to the personal characteristics of these young women—to their values, interests, life goals, abilities, and self-images. If these personal characteristics were identified early in their secondary school experience, possibly more girls would make appropriate career decisions and be appropriately prepared to attain their educational and career goals.

The purpose of this study has been threefold.

1. to identify the personal characteristics of ninth-grade girls as well as their career choices during ninth grade;
2. to isolate any personal characteristics of ninth-grade girls that are associated with their career choices and that distinguish them from girls in other career groups;
3. to detect any characteristics of their parents and of their schools that are associated with their career choices and that distinguish them from girls in other career groups.

In the literature there is support for the idea that enough stability of personality, ability, and values exists from early adolescence (ninth grade) through middle adolescence (twelfth grade) to predict satisfaction in later adolescence (college undergraduate/initial job placement).

Utilizing the Project TALENT Data Bank, Astin (1968a) attempted to predict the career plans of 817 female high school seniors from their personal characteristics as ninth graders and from selected environmental characteristics of their high school. She demonstrated that twelfth-grade girls choosing different careers could be differentiated in terms of interests, career plans, and aptitudes as measured during ninth grade. Certain personal variables were meaningful and useful predictors of career choice.

Tyler's longitudinal study (1964) considered girls at the first-grade, fourth-grade, eighth-grade, tenth-grade, and postsecondary level. She found that career-oriented girls exhibited greater abilities and achievements at all developmental levels than did non-career-oriented girls. Girls' career interests begin to take shape at or before the age of 14. Career-oriented girls are interested in boys' activities at an early age, but these early masculine interests subside as development continues. These girls averaged higher on most of the scales of the California Psychological Inventory, the largest differences appearing on the scales for responsibility, self-control, and achievement.

In a study designed to explore the career development of women during the five-year period after high school, Astin and Myint (1971) found that aptitude and expressed interests differentiated among girls with diffferent career choices. Early interest and initial career choice in one of the health fields or the arts predicted similar choices later. Girls with an interest in social service and the health fields, but with little interest in pursuing advanced education, usually continue to choose those careers. Early interest in business and management, a bachelor's degree, and unmarried status proved to be the best predictors of plans to pursue a business career.

Mastery of mathematics is of critical importance for equal opportunity in the world of work (Casserly 1979; Fox, Brady, and Tobin 1980). Characteristics of young women associated with selection of advanced mathematics courses in secondary school are (1) perception of the usefulness of mathematics to further education and to careers and (2) interest in natural sciences as opposed to social studies and history. Other significant factors are encouragement by mother, father, counselor, mathematics teachers, or peers to continue the study of mathematics. Casserly and Rock (forthcoming) suggest strategies and tactics to ensure college-bound women a mathematics background that will enable them to pursue "almost *any* [authors' emphasis] field of further education they may later wish to choose." Fox, Brady, and Tobin (1980) examine sex differences with respect to mathematics that appear to be a result of social learning, then consider ways in which such behavior and attitudes can be changed or prevented.

Not only preparation in academic areas but also participation in activities influence career choice. Baird (1982) reviewed numerous studies investigating the correlation between personal characteristics and activities with career choice. The best predictors of future high-level, real-life accomplishment in writing, science, art, music, and

leadership appear to be similar accomplishments, albeit at a lower level, in previous years.

Although academic ability is not irrelevant in accomplishment, it is only one of many factors influencing attainment, one of the most important of which is simple participation (Baird 1982).

Oden (1968) identified variables closely associated with career success: (1) home background in which parents place a high value on education, encourage independence and initiative, and expect a high level of accomplishment; (2) good mental health and all-round social and emotional adjustment; (3) possession of certain traits and personality characteristics.

Despite great instability of career plans between the senior year of secondary school and five years later (close to one-half of the twelfth-grade girls changed their career plans), early patterns and interests predict later career outcomes (Astin and Myint 1971; Willingham and Breland 1982). Capable students are likely to be perceptive about their own interests and aptitudes at an early age and thus are often able to choose careers that are realistic and appropriate to their personal qualities. The intellectually less capable, on the other hand, tend to make relatively unrealistic career plans that they must change later. Less scholastically capable girls defect more often from careers that require high aptitudes and long, rigorous training. Conversely, brighter girls are apt to change initial plans of being homemakers and office workers. Girls who have low aspirations in high school and who later learn that certain career choices are not commensurate with their interests or abilities, if helped to recognize and appreciate their skills at an early age, might be able to make better career decisions.

Counseling and guidance services assist young women to make career choices based on self-knowledge and career exploration. Graff, et al. (1972) found that the *kind* of educational/career counseling offered to students did not significantly alter outcomes. They enumerated seven counseling goals: (1) becoming aware of majors offered, (2) becoming informed of career opportunities and requirements, (3) interpreting and evaluating aptitude and interest measures, (4) discussing the relationship of personal and social factors to career choice, (5) discussing philosophy of life and values and the implications for career choice, (6) learning how to make educational and career choices, and (7) establishing educational and career goals consistent with abilities, interests, and personality. Of the three kinds of counseling offered (individual, group, and programmed self-instruction), self-instruction was most effective in attaining three of these counseling goals and equally effective in attaining the other four.

To the tasks mentioned above, Psathas (1968) adds another—an understanding of the factors that influence the entry of women into careers: that is, the relationship between sex role and occupational role. He suggests that young women be aware of the influences of birth order, age and sex of siblings, socioeconomic level, educational and occupational level of parents, and both personal and parental value patterns.

Elton and Rose (1967) urge counselors to consider personality factors as well as feminine sex-role in their career counseling of young women. On the basis of weighted personality scores of female college graduates, they were able to classify correctly 69 percent of social/religious/education graduates and 72 percent of the arts/humanities graduates. Scholarly orientation was the single most discriminating variable. Women with similar feminine attitudes, but with different commitments to intellectuality or conformity, make diverse career choices.

When life goals are considered (Astin and Nichols 1964), differences between sexes are apparent. Men tend to be more concerned with achievement in science and technology and with gaining prestige. Men also expect to make more money than do women. Women are more concerned with altruism and with personal comfort (to be happy, well liked, financially secure, and so on). Some of the sex differences are reversed, however, when career choice is taken into account. For example, women planning to be physicians, lawyers, and research physicists are *less* concerned with achieving personal comfort than are males planning the same careers. Life goals, then, seem to be important determiners of career choice and possibly of satisfaction with a career once a choice has been made.

Putnam and Hansen (1972) observe that a young woman's self-concept and her feminine role-concept are useful predictors of career maturity. The more a girl viewed her role as being liberal, the higher was her level of career maturity. Their research indicates that Super's theory of career development is applicable to girls. That is, a young woman puts into occupational terminology her idea of the kind of person she is; she seeks to implement a concept of herself; she makes possible the playing of a role appropriate to her self-concept.

Young women exhibit more mature behavior in exploring careers and in reflecting on personal characteristics than do young men, yet many women select occupations that are unrealistically low for their aptitudes and interests (Patterson 1973). Reporting that the achievement behavior of females differs from that of males, Farmer (1978) suggests that differences in motivation result from many factors: (1) lower academic self-confidence, (2) fear of success, (3) vicarious achievement motivation, (4) home-career conflict, (5) myths about women and the world of work, (6) lower risk-taking orientation, and (7) sex-role socialization.

Although not fundamentally *different* from that of men, the career development of women is vastly more complex because of differences in their socialization. Women are a more heterogeneous group with respect to their career patterns than are men. Counselors working with young women must be knowledgeable about classical career development theories and also familiar with factors affecting the application of such theories to women. No coherent

theory of female career development exists (Fitzgerald and Crites 1980).

## METHOD

This study is similar to one reported by Astin (1968a) using the Project TALENT Data Bank. A different population, a different criterion variable, and different predictor variables have been used.

### Subjects

The student population consists of 852 ninth-grade girls at selected high schools within the Middle States region. These schools differ in size, location, control, ethnic composition, and percentage of graduates pursuing further education. (See Appendix A.)

### Measures

QUESTA, an assessment instrument developed by the Secondary School Research Program with the assistance of Educational Testing Service, was administered by this researcher in each of the schools during January and February 1983. The instrument gathers attitudinal, biographical, and socioeconomic information and is designed to reveal a student's attitudes toward herself, her peers, and her new school. (See Appendix B.)

Predictor variables for the study are measures of students' personal characteristics and their perceptions of parental and school characteristics. Of 225 variables, only those that discriminated among the career groups in preliminary analyses were used. Personal characteristics include age, ethnic background, grade-point average, postgraduate plans, self-concept, values, and expectations of students. School characteristics include students' perceptions of their schools. Parental characteristics include educational level of both parents, as well as students' perceptions of parental support of activities and of intermediate goals.

The criterion variable is the career classification used in the Student Descriptive Summary of the College Board's Admissions Testing Program. (See Appendix C.)

### Procedures

Multiple discriminant analysis has been used because it allows assessment of the degree to which a person resembles each of several groups on the basis of certain variables. In addition, discriminant analysis permits one to summarize the predictive value of several variables more economically by reducing them to a smaller number of separate functions. Unique characteristics associated with different career groups are revealed in the variables that define each function.

## RESULTS

The largest number of girls (206) selected health and medical careers, thus making biological sciences and related areas the largest career group (27 percent). Within the second largest career group, social sciences and related areas (19 percent), were girls electing psychology (54), prelaw (39), and education (36). Within arts and humanities (18 percent) were students indicating preferences for art (71), theatre arts (26), communications (18), and music (16). Of those electing physical sciences and related areas (9 percent), most chose either computer science and systems analysis (51) or engineering (13). The smallest of the five career groups was business (7 percent), chosen by 58 girls. The remainder of girls indicated trade and vocational (11 percent), undecided (8 percent), or other (2 percent). (See Appendix D.)

Of 225 career choices listed, 111 were selected by the girls. The relative sizes of the five career categories in the present study resemble those indicated for females in the report of *National College-Bound Seniors, 1982*. However, data in the current study assigned secretarial studies (38) to trade and vocational, also communications (18) to arts and humanities. Had these two categories remained as part of business, that percentage would be 13 percent, rather than 7 percent as reported.

The sample includes girls of all ethnic backgrounds in nearly the same proportion as the report of *National College-Bound Seniors, 1982*. With few exceptions these ninth-grade girls are 14 years old (14.18). They are bright (mean grade from previous school is 3.08) and ambitious (74 percent aspiring to four-year college or to graduate/professional school). Sixty-two percent expect to be enrolled in a four-year college in the fall of 1986. Their fathers are better educated than their mothers, the "average" father having had "some college" and the average mother having attended business or trade school (including hospital schools of nursing). (See Appendix E for summary data for these and other selected QUESTA items.)

When offered a list of 37 items to be learned during their high school years, the young women indicated that it is more important to them to learn personal and interpersonal skills than to acquire academic competencies. It is "very important" to these girls to learn to prepare for jobs and careers (85 percent), to accept and handle responsibility (82 percent), to prepare for further education (75 percent), to solve problems and to think clearly (73 percent), to get along with people (75 percent), to develop confidence in themselves (74 percent), to manage money (71 percent), and to think for themselves (70 percent).

Smaller percentages of girls consider it "very important" to learn these areas: mathematics (75 percent), English (71 percent), computers (42 percent), sciences (40 percent), foreign languages (25 percent), social studies and history (24 percent), art and music (16 percent).

After four months in secondary school, ninth-grade

girls anticipate few problems. Except for pressure to get good grades, which 42 percent anticipate as a "big" problem, the problems are considered small. The most significant problems seem to be academic rather than personal and interpersonal. Girls foresee a "big problem" in the following areas: improving study habits (24 percent), improving math skills (15 percent), classwork being too difficult (18 percent), choosing courses (13 percent), deciding what to do after high school (18 percent), and getting into college (15 percent). On the other hand, they expect "no problem" with personal safety (86 percent), interracial interactions (81 percent), drugs (85 percent), or alcohol (76 percent).

Above all these girls value personal happiness (96 percent). These nascent feminists consider it "very important" to stand up for their rights (76 percent) and to live their lives their own way (72 percent) but also to make lifelong friendships (73 percent) and to help others (66 percent). It is not "very important" to these young women to be active in politics (3 percent).

Indicating greater willingness to achieve intermediate goals than to participate in extracurricular activities, they expect to stay in school and graduate (99 percent), hope to get high grades (95 percent), want to learn to think for themselves (95 percent), and wish to develop their own interests and abilities (91 percent) to a far greater extent than they anticipate involvement in ecology clubs (7 percent), political activities (9 percent), science clubs (16 percent), mathematics clubs (17 percent), debating clubs (17 percent), language clubs (29 percent), or computer clubs (34 percent).

However, when asked to indicate the amount of support they perceived from their fathers and mothers, these young women indicated parental support for participation in activities to be greater than their own desire for participation. On each of 27 items, parents were more supportive of their daughters' participation in activities than were the girls. On only one item ("Be popular with other kids") did parents (fathers 2.53 and mothers 2.64) score below daughters (2.74).

Despite the knowledge that they have earned good grades in previous schools (median GPA is 3.45), and notwithstanding the fact that girls with grade-point averages from *A* to *D* aspire to four-year college, few girls consider themselves outstanding in academic competencies compared to others at their school. Small numbers rate themselves "very high" in reading (17 percent), writing (13 percent), foreign language (13 percent), mathematics (11 percent), artistic ability (8 percent), musical ability (7 percent), or scientific ability (5 percent). Many more girls rate themselves "very high" on personal and interpersonal competencies, such as making friends (24 percent), relating to boys (24 percent), imagination (23 percent), and common sense (21 percent). Few ninth-grade girls consider their academic abilities to be noteworthy. Rather, they regard as "below average" certain competencies, such as mechanical (43 percent), musical (34 percent), dramatic (27 percent), artistic (24 percent), and scientific (23 percent), in which some girls might be expected to be more adept. However, very few students consider themselves "below average" in reading (6 percent) or writing (4 percent), whereas their teachers might not be so willing to concede competence.

Students report that their mothers have had the greatest influence on their values and opinions about life (78 percent). Fathers (63 percent) and other family members (54 percent) exert "much influence" on the girls, as do peers (61 percent). Less influential are teachers (26 percent) and counselors (16 percent). Reading (34 percent), they report, is a greater influence for good than are films, TV, and plays (26 percent).

Within months of matriculation the students perceive their schools as centers of learning (91 percent), of peer contact (90 percent), and of extracurricular activities (82 percent). However, they are less likely to consider their schools as institutions that make students think (77 percent) or that allow students to study what they like on their own (53 percent). Students perceive there is much competition for grades (47 percent). (See Appendix F.)

The current study attempted to reduce this profusion of characteristics to a reasonable number so that educators can foster appropriate characteristics and eliminate barriers to educational and career development.

Using discriminant analysis, this researcher identified thirty characteristics (18 personal, 7 parental, and 5 school) that distinguish girls in one career group from those in the other four career groups. (See Appendix G.)

The first discriminant function, "science/mathematics orientation," accounts for 52 percent of the variation in the career choosers and is represented primarily by the following characteristics: importance of learning sciences and mathematics, willingness to participate in science and mathematics clubs, awareness of one's ability in mathematics, and father's support of participation in mathematics clubs.

The second distinguishing function has been labeled "computer/business orientation" because it loads primarily on learning computers, learning business, learning to manage money, participation in computer clubs, and wanting to make a lot of money.

These two functions account for 80 percent of the variance among the five career groups.

Table 1 shows the characteristics associated with each of five career groups, together with their correlations on each function and the percentage of cases within each group correctly classified.

## DISCUSSION

Clearly, then, there are three interrelated areas where educators must focus their energies (and assist students to focus *their* energies) in order to foster appropriate characteristics and to eliminate barriers to the optimal

**Table 1. Characteristics Associated with Each of Five Career Groups**

| | Correlations | |
|---|---|---|
| | *First Function* | *Second Function* |
| *Arts and Humanities* (60% of cases correctly classified) | | |
| Learn art and music | − .367 | − .226 |
| Artistic ability | − .283 | − .135 |
| Mother's support of arts and crafts | − .271 | − .220 |
| Value being creative | − .242 | − .129 |
| Dramatic ability | − .236 | − .149 |
| Father's support of creative writing, student publications | − .145 | − .154 |
| *Biological Sciences* (54% of cases correctly classified) | | |
| Learn sciences | .549 | − .263 |
| Science clubs | .434 | − .142 |
| Mother's support of going to college | .165 | − .104 |
| Learn marriage and family life | .143 | − .071 |
| School has many good activities | .139 | − .123 |
| Value understanding other people | .056 | − .169 |
| *Business* (59% of cases correctly classified) | | |
| Learn business | − .008 | .282 |
| Go to vocational, technical, or business school | − .054 | .172 |
| Learn to manage money | − .023 | .167 |
| Value making a lot of money | − .059 | .150 |
| Learn getting along with boys | − .034 | .136 |
| School's percentage of college-bound students | − .056 | .085 |
| School has spirit | − .064 | .061 |
| *Physical Sciences* (70% of cases correctly classified) | | |
| Computer club | .148 | .584 |
| Mathematics club | .310 | .432 |
| Learn computers | .076 | .424 |
| Mathematical ability | .261 | .193 |
| Learn mathematics | .280 | .171 |
| Father's support of participation in mathematics club | .149 | .069 |
| School size | .272 | .041 |
| School has good teachers | .051 | .037 |
| *Social Sciences* (38% of cases correctly classified) | | |
| Father's level of education | − .095 | − .094 |
| Father's support of participation in student government | − .088 | − .136 |
| Father's support of participation in school's community-service projects | − .011 | − .179 |

educational and career development of young women: (1) academic achievement, (2) cocurricular achievement, and (3) career exploration.

## Academic Achievement

Entry into and success in higher education and a career is so dependent on adequate preparation in mathematics and sciences that educators must assume greater responsibility for informing students and parents of the implications and consequences of choosing (or not choosing) appropriate mathematics and science courses at each grade level. In like manner, the importance of competency in foreign languages, social studies, fine arts, and computers must be communicated to school communities. Together with rigorous programs in composition and literature, these courses constitute minimal preparation for those students aspiring to an undergraduate education who now perceive no discrepancy between their educational/career goals and the academic programs required to attain those goals.

In addition, educators must equip students with those skills described by the Educational EQuality Project as Basic Academic Competencies (reasoning, speaking and listening, writing, reading, studying, mathematics) which these students anticipate will enable them to compete successfully.

Neither selection of rigorous academic courses nor acquisition of basic academic competencies, however, will assure educational/career achievement for girls ignorant of, or unconvinced of, their academic abilities. Because students both underestimate and overestimate their academic competencies, educators must be creative in supplementing grades with other effective feedback to girls so that young women know realistically how talented they are in various academic areas.

## Cocurricular Achievement

Girls need to experience a sense of accomplishment—not only in academic areas, but also in activities. Though girls rate very high their perception of their schools as places where "there are a lot of good activities outside of class," fewer than 40 percent plan to participate in school activities. Educators, therefore, as well as parents, must stimulate involvement in school and community activities so that these adolescents have opportunities to explore curriculum-related areas (for example, sciences, mathematics, computers, government, writing, foreign languages, art, music, and drama) and to receive the approbation of peers and others for successful performance in these areas.

As a further means to ensure that girls develop a sense of accomplishment, schools must be creative in involving more ninth-grade girls in independent study projects. Though girls rate very high their ability to work independently (as well as their desire to accept and handle responsibility, to solve problems and think clearly, to develop confidence in self, and to think for self), they do not perceive their schools as places to "study what they like on their own."

## Career Exploration

As adolescents develop more realistic concepts of their achieving selves, educators and parents must offer opportunities for them to witness how adults, especially women, translate into careers images of the persons they perceive themselves to be. Through programs designed to provide career information, exercises, projects, experiences, and counseling, young women will be less apt to settle for

careers that incorporate only a portion of their personal characteristics and more apt to create for themselves careers that incorporate as many of their interests, values, competencies, and accomplishments as possible.

These young women place high priority on preparing for jobs and careers and on preparing for further education. Educators must respond.

## REFERENCES


Astin, A. W. and R. C. Nichols, 1964. Life Goals and Vocational Choice. *Journal of Applied Psychology* 48: 50–58.

Astin, H. S. 1968a. Career Development of Girls during the High School Years. *Journal of Counseling Psychology* 15: 536–540.

Astin, H. S. 1968b. Stability and Change in the Career Plans of Ninth Grade Girls. *Personnel and Guidance Journal* 46: 961–966.

Astin, H. S. and T. Myint, 1971. Career Development of Young Women during the Post-High School Years. *Journal of Counseling Psychology* 18: 369–393.

Baird, L. L. 1982. *The Role of Academic Ability in High-Level Accomplishment and General Success* (College Board Report No. 82–6 and ETS RR No. 82–43). New York: College Entrance Examination Board.

Casserly, P. L. 1979. Helping Able Young Women Take Math and Science Seriously in School. Reprint with revisions New York: The College Entrance Examination Board. From Colangelo-Zaffrann. 1979. *New Voices in Counseling the Gifted*. Dubuque, Ia.: Kendall/Hunt.

Casserly, P. L. 1983. Encouraging Young Women to Persist and Achieve in Mathematics. *Children Today* 12: 8–12.

Casserly, P. L. and D. A. Rock. Forthcoming. Factors Related to Young Women's Persistence and Achievement in Mathematics, with Special Focus on the Sequence Leading to and through Advanced Placement Mathematics. In *Women and Mathematics: Balancing the Equation*, S. Chipman, L. Brush, and D. Wilson, eds. Hillsdale, N.J.: Erlbaum Associates.

College Entrance Examination Board. 1982. *National Report: College-Bound Seniors, 1982*. Princeton, N.J.: Educational Testing Service.

Elton, C. F. and H. A. Rose, 1967. Significance of Personality in the Vocational Choice of College Women. *Journal of Counseling Psychology* 14: 293–298.

Farmer, H. S. 1978. What Inhibits Achievement and Career Motivation in Women? In *Counseling Women*, L. W. Harmon, et al, eds., Monterey, Calif.: Brooks/Cole.

Fitzgerald, L. F. and J. O. Crites. 1980. Toward a Career Psychology of Women: What Do We Know? What Do We Need to Know? *Journal of Counseling Psychology* 27: 44–62.

Fox, L. H., L. Brady, and D. Tobin, 1980. *Women and the Mathematical Mystique* (proceedings of the Eighth Annual Hyman Bluming Symposium on Research in Early Childhood Education; expanded version of a symposium of the American Association for the Advancement of Science Entitled "Women and Mathematics"). Baltimore: Johns Hopkins University Press.

Graff, R. W., S. Danish, and B. Astin, 1972. Reaction to Three Kinds of Vocational-Educational Counseling. *Journal of Counseling Psychology* 19: 224–228.

Oden, M. H. 1968. The Fulfillment of Promise: 40 Year Follow-up of the Terman Gifted Group. *Genetic Psychology Monographs* 77: 3–93.

Patterson, L. E. 1973. Girls' Careers—Expression of Identity. *Vocational Guidance Quarterly* 21: 268–275.

Psathas, G. 1968. Toward a Theory of Occupational Choice for Women. *Sociology and Social Research* 52: 253–268.

Putnam, B. A. and J. C. Hansen, 1972. Relationship of Self-Concept and Feminine Role-Concept to Vocational Maturity in Young Women. *Journal of Counseling Psychology* 19: 436–440.

Tyler, L. E. 1964. The Antecedents of Two Varieties of Vocational Interests. *Genetic Psychology Monographs* 70: 177–227.

Willingham, W. W. and H. Breland, 1982. *Personal Qualities and College Admissions*. New York: College Entrance Examination Board.


## APPENDIX A. SAMPLE

Fourteen schools participated in the study. All are located within the five-county area of southeastern Pennsylvania. The sample is described below.

| | *Schools* | *Students* |
|---|---|---|
| *Control* | | |
| Public | 50.0% | 60.7% |
| Diocesan | 14.3 | 19.1 |
| Independent | 35.7 | 20.2 |
| *Location* | | |
| Rural | 28.6 | 21.4 |
| Urban | 21.4 | 26.9 |
| Suburban | 50.0 | 51.8 |
| *Size* | | |
| Below 500 | 35.7 | 20.2 |
| 500–1500 | 42.9 | 50.5 |
| Above 1500 | 21.4 | 29.3 |
| *Sex* | | |
| Girls only | 21.4 | 25.0 |
| Coed | 78.6 | 75.0 |
| *Type* | | |
| Boarding | 14.3 | 6.7 |
| Day | 85.7 | 93.3 |
| *College-Bound Population* | | |
| Below 40% | 21.4 | 25.1 |
| 40% to 70% | 42.9 | 48.5 |
| Above 70% | 35.7 | 26.4 |

## APPENDIX B

# QUESTIONNAIRE FOR NEW STUDENTS

The purpose of this questionnaire is to learn more about the attitudes, opinions, and aspirations of the school community, as well as the teaching methods, purposes, and educational programs of your school. Such information will enable your school to understand and improve itself. The questionnaire is not a test. It cannot and will not be used to evaluate individuals. Please do not sign your name or identify yourself in any way.

Your willingness to complete the questionnaire is appreciated. Please try to answer all the questions. However, do not answer any questions that you feel are inappropriate or too personal. Thank you for your cooperation.

If instructed, mark your subgroup: ① ② ③ ④

1. What is your sex?

Male ○ Female ○

2. What is your present grade?

6th ○ 7th ○ 8th ○ 9th ○ 10th ○ 11th ○ 12th ○

3. How old are you?

Under 12 ○ 12 ○ 13 ○ 14 ○ 15 ○ 16 ○ Over 16 ○

4. How do you describe yourself?

○ American Indian
○ Black or Afro-American
○ Mexican American or Chicano
○ Oriental or Asian American
○ Puerto Rican or Spanish speaking American
○ White or Caucasian
○ Other

5. What do you think is the highest level of education completed by each of your parents or guardians? Mark "Doesn't apply" if your parent is not living and you have no guardian.

A. Father or male guardian
B. Mother or female guardian

Ⓐ Ⓑ Did not complete high school
Ⓐ Ⓑ Finished high school or equivalent
Ⓐ Ⓑ Business or trade school
Ⓐ Ⓑ Some college
Ⓐ Ⓑ Finished college
Ⓐ Ⓑ Went to graduate school (for example, law or medical school) but did not finish
Ⓐ Ⓑ Has a graduate degree such as Masters or Doctors degree (M.A., Ph.D., M.D., D.D.S.)
Ⓐ Ⓑ Doesn't apply

6. What were your grades at the last school you went to? (Make a guess if you're not sure or if your last school didn't use letter grades.)

○ Mostly A's
○ Mostly A's and B's
○ Mostly B's
○ Mostly B's and C's
○ Mostly C's
○ Mostly C's and D's
○ Mostly D's

7. If you could go to any kind of high school, which one would you choose?

○ A public school
○ A technical or vocational school
○ A private day school
○ A private boarding school
○ A church-related school

8. What is the highest level of education you plan to complete?

○ Less than high school graduation
○ Graduate from high school but not go beyond that
○ Graduate from high school and then go to a vocational, technical, or business school
○ Go to a junior college
○ Go to a 4-year college or university
○ Go to a graduate or professional school after college

9. During the year after you leave high school, which of the following do you think will take up *most* of your time? (Mark only *one* thing—the one that will take the most time.)

○ Working
○ Entering an on-the-job training program or apprenticeship
○ Going into regular military service
○ Being a full-time homemaker
○ Going to a vocational or technical school
○ Going to a business school
○ Going to a junior or community college
○ Going to a 4-year college or university
○ Other
○ Don't know

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10. How important is it for you to learn about these things in high school?

A. Very Important
B. Somewhat Important
C. Not Important

- (A) (B) (C) English
- (A) (B) (C) Mathematics
- (A) (B) (C) Sciences
- (A) (B) (C) Social Studies and History
- (A) (B) (C) foreign languages
- (A) (B) (C) computers
- (A) (B) (C) business subjects (like typing and bookkeeping)
- (A) (B) (C) vocational subjects (like auto mechanics, home economics)
- (A) (B) (C) politics
- (A) (B) (C) art and music
- (A) (B) (C) sex education
- (A) (B) (C) being a good citizen
- (A) (B) (C) marriage and family life
- (A) (B) (C) understanding people with different backgrounds
- (A) (B) (C) changes taking place in the world
- (A) (B) (C) understanding and practicing democratic ideas
- (A) (B) (C) examining and using information
- (A) (B) (C) managing money
- (A) (B) (C) using free time
- (A) (B) (C) health and safety
- (A) (B) (C) feeling proud of good work
- (A) (B) (C) becoming less dependent on parents
- (A) (B) (C) developing confidence in myself
- (A) (B) (C) getting along with people
- (A) (B) (C) solving problems and thinking clearly
- (A) (B) (C) thinking for myself
- (A) (B) (C) accepting and handling responsibility
- (A) (B) (C) finishing projects once they're started
- (A) (B) (C) helping other people
- (A) (B) (C) being more creative
- (A) (B) (C) getting along with the opposite sex
- (A) (B) (C) enjoying learning new things
- (A) (B) (C) the difference between right and wrong
- (A) (B) (C) getting along with parents
- (A) (B) (C) preparing for jobs and careers
- (A) (B) (C) being leaders
- (A) (B) (C) preparing for further education

11. Listed below are problems students sometimes have in high school. How much of a problem do you expect these to be for you?

A. No Problem
B. Small Problem
C. Big Problem

- (A) (B) (C) Deciding what to do after high school
- (A) (B) (C) Choosing courses
- (A) (B) (C) Pressure to get good grades
- (A) (B) (C) Classwork being too hard
- (A) (B) (C) Finding friends
- (A) (B) (C) Getting along with students of different races
- (A) (B) (C) Staying out of trouble
- (A) (B) (C) Improving reading skills
- (A) (B) (C) Improving math skills
- (A) (B) (C) Improving study habits
- (A) (B) (C) Deciding right from wrong
- (A) (B) (C) School rules
- (A) (B) (C) Getting along with the opposite sex
- (A) (B) (C) Lack of privacy
- (A) (B) (C) Physical education or gym class
- (A) (B) (C) Other students making me feel bad
- (A) (B) (C) Being pressured by other students to do something wrong
- (A) (B) (C) Religion
- (A) (B) (C) Being beaten up by other students
- (A) (B) (C) Alcohol
- (A) (B) (C) Drugs
- (A) (B) (C) Getting into college

12. How important are the following in your life?

A. Very Important
B. Somewhat Important
C. Not Important

- (A) (B) (C) Making a lot of money
- (A) (B) (C) Being happy
- (A) (B) (C) Getting married
- (A) (B) (C) Helping others
- (A) (B) (C) Being active in politics
- (A) (B) (C) Living my life my own way
- (A) (B) (C) Being important and successful
- (A) (B) (C) Being creative
- (A) (B) (C) Making lifelong friendships
- (A) (B) (C) Understanding other people
- (A) (B) (C) Standing up for my rights
- (A) (B) (C) Giving religion a place in my daily life
- (A) (B) (C) Telling the truth even if it hurts other people's feelings



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## Appendix B continued

| 13. Indicate whether or not you would like to do these things or take part in these activities. | | | | 14. For these same activities, how would your father or male guardian feel about your doing them? (If you have no father or male guardian, go on to item 15.) | | | 15. For these same activities, how would your mother or female guardian feel about your doing them? (If you have no mother or female guardian, go on to item 16.) | | |
|---|---|---|---|---|---|---|---|---|---|
| Yes | No | Don't Know | | He would want me to do this | He would *not* want me to do this | He wouldn't care | She would want me to do this | She would *not* want me to do this | She wouldn't care |
| A | B | C | Arts and crafts | A | B | C | A | B | C |
| A | B | C | Music (choir, band, orchestra) | A | B | C | A | B | C |
| A | B | C | School plays | A | B | C | A | B | C |
| A | B | C | Creative writing, school publications | A | B | C | A | B | C |
| A | B | C | Sports | A | B | C | A | B | C |
| A | B | C | Science clubs (Biology, Physics, radio, etc.) | A | B | C | A | B | C |
| A | B | C | Computer club | A | B | C | A | B | C |
| A | B | C | Math club | A | B | C | A | B | C |
| A | B | C | Language club | A | B | C | A | B | C |
| A | B | C | Ecology club | A | B | C | A | B | C |
| A | B | C | Cheerleading or pep club | A | B | C | A | B | C |
| A | B | C | Debating clubs | A | B | C | A | B | C |
| A | B | C | Religious activities | A | B | C | A | B | C |
| A | B | C | Political activities | A | B | C | A | B | C |
| A | B | C | School community-service projects | A | B | C | A | B | C |
| A | B | C | Faculty-student committees | A | B | C | A | B | C |
| A | B | C | Social clubs | A | B | C | A | B | C |
| A | B | C | Independent study groups or programs | A | B | C | A | B | C |
| A | B | C | Student government | A | B | C | A | B | C |
| A | B | C | Go to college | A | B | C | A | B | C |
| A | B | C | Go to a vocational, technical, or business school | A | B | C | A | B | C |
| A | B | C | Get high grades | A | B | C | A | B | C |
| A | B | C | Stay in school and graduate | A | B | C | A | B | C |
| A | B | C | Be popular with other kids | A | B | C | A | B | C |
| A | B | C | Be active in art or music | A | B | C | A | B | C |
| A | B | C | Develop my own interests and abilities | A | B | C | A | B | C |
| A | B | C | Learn to think for myself | A | B | C | A | B | C |
| A | B | C | Obey the rules of the school and community | A | B | C | A | B | C |

16. Even though you are new to this school, do you think the following are generally true or generally false about this school?

| Generally true | Generally false | Don't Know | |
|---|---|---|---|
| A | B | C | Students are friendly |
| A | B | C | The school is too concerned about manners and dress |
| A | B | C | The school makes students think |
| A | B | C | There is active social life |
| A | B | C | Students can study what they like on their own |
| A | B | C | Teachers are friendly |
| A | B | C | There are very strict rules |
| A | B | C | There's a lot of competition for grades |
| A | B | C | The school believes learning is very important |
| A | B | C | Students are treated like numbers |
| A | B | C | There is a lot of school spirit |
| A | B | C | The school provides ways for students to serve the community |
| A | B | C | Students can feel comfortable at this school |
| A | B | C | The school has good teachers |
| A | B | C | There are a lot of good activities outside of class |
| A | B | C | The physical education or gym courses are good |
| A | B | C | The music, art and drama courses are good |

17. Mark all the phrases below you think are true about relations between students of different races at your school.

- ○ This item does not apply because there is mostly only one race at this school
- ○ They get along all right
- ○ They stay away from each other
- ○ They learn from each other
- ○ They don't like each other
- ○ They fight with each other
- ○ They criticize or put down each other
- ○ They try to understand each other's problems
- ○ They don't pay attention to differences between races
- ○ They don't trust each other
- ○ They treat each other as individuals, not as members of a group



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18. How good do you think you are (compared to others at your school) in each of the following areas?

A. Top ten percent
B. Above Average
C. Average
D. Below Average

| A | B | C | D | |
|---|---|---|---|---|
| Ⓐ | Ⓑ | ○ | Ⓓ | Writing ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Reading ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Artistic ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Athletic ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Musical ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Scientific ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Mathematical ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Mechanical ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Leadership ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Ability to learn foreign languages |
| Ⓐ | Ⓑ | ○ | Ⓓ | Ability to work independently |
| Ⓐ | Ⓑ | ○ | Ⓓ | Dramatic ability |
| Ⓐ | Ⓑ | ○ | Ⓓ | Ability to make friends |
| Ⓐ | Ⓑ | ○ | Ⓓ | Imagination |
| Ⓐ | Ⓑ | ○ | Ⓓ | Common sense |
| Ⓐ | Ⓑ | ○ | Ⓓ | Self discipline |
| Ⓐ | Ⓑ | ○ | Ⓓ | Ability to express my feelings |
| Ⓐ | Ⓑ | ○ | Ⓓ | Knowledge of my own abilities |
| Ⓐ | Ⓑ | ○ | Ⓓ | Physical development |
| Ⓐ | Ⓑ | ○ | Ⓓ | Ability to handle worries |
| Ⓐ | Ⓑ | ○ | Ⓓ | Ability to relate to the opposite sex |

19. How much has each of the following been a *good* influence on your values and opinions about life?

A. Not at all
B. Some
C. A lot

| A | B | C | |
|---|---|---|---|
| Ⓐ | Ⓑ | ○ | Church or religion |
| Ⓐ | Ⓑ | ○ | Student friends |
| Ⓐ | Ⓑ | ○ | Community service |
| Ⓐ | Ⓑ | ○ | Reading |
| Ⓐ | Ⓑ | ○ | Father (or male guardian) |
| Ⓐ | Ⓑ | ○ | Mother (or female guardian) |
| Ⓐ | Ⓑ | ○ | Other members of the family |
| Ⓐ | Ⓑ | ○ | Teachers |
| Ⓐ | Ⓑ | ○ | School courses in religion or ethics |
| Ⓐ | Ⓑ | ○ | Other school courses |
| Ⓐ | Ⓑ | ○ | School counselors |
| Ⓐ | Ⓑ | ○ | Films, TV, and plays |

20. If you discovered a student cheating, what would you do? (Mark only one)

- ○ It wouldn't bother me
- ○ It would bother me, but I wouldn't do anything
- ○ I would talk to the student I discovered cheating, but I wouldn't tell anyone else
- ○ I would talk to a teacher or other authority without naming the student, but I would not talk to the student about his cheating
- ○ I would report the student by name to a teacher or other authority
- ○ I'm not sure. It would depend on the situation

21. (To be answered by non-public [independent] school students only.) Mark the items that were important in choosing your school.

- ○ Cost
- ○ Academic quality
- ○ General reputation
- ○ Athletic program
- ○ Discipline
- ○ Advice of teacher or counselor
- ○ Advice of relatives
- ○ Religion
- ○ Size
- ○ Reputation for being friendly
- ○ Social activities
- ○ Freedom to choose studies

| SCHOOL I.D. | | STUDENT | | | CAREER | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |





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# APPENDIX C. CAREER CLASSIFICATION

Choose the career that you think you will follow after completing your education. (If your exact choice is not listed here, select the one most closely related.)

**100 AGRICULTURE**
101 agriculture economics
102 agronomy, field crops
103 animal science
104 dairy science
105 farming, ranching
106 fish and game, wildlife management
107 food science
108 horticulture
109 landscaping
110 soil sciences

**125 ARCHITECTURE AND ENVIRONMENTAL DESIGN**
126 architecture
127 city planning
128 urban development

**150 ART**
151 art history
152 commercial
153 design
154 fashion design
155 graphic arts
156 interior decorating
157 museum work
158 photography
159 printing
160 studio art

**175 BIOLOGICAL SCIENCES**
176 bacteriology
177 biochemistry
178 biology
179 biophysics
180 botany
181 ecology
182 marine biology
183 physiology
184 zoology

**200 BUSINESS AND COMMERCE**
201 accounting
202 advertising
203 business management and administration
204 court reporting
205 finance and banking
206 hotel and restaurant administration
207 industrial management
208 marketing
209 personnel work
210 real estate
211 sales and retailing
212 secretarial studies
213 transportation and commerce

**225 COMMUNICATIONS**
226 film
227 journalism
228 radio and television

**250 COMPUTER SCIENCE AND SYSTEMS ANALYSIS**
251 computer science
252 data processing
253 systems analysis

**275 EDUCATION**
276 agricultural education
277 art education
278 business education
279 child development and nursery education
280 college teaching
281 educational administration
282 education of exceptional children
283 education of the deaf
284 education of the mentally retarded
285 elementary education
286 general education
287 guidance counseling
288 health education
289 home economics education
290 industrial arts education
291 music education
292 physical education
293 recreation
294 secondary education
295 speech therapy
296 vocational trade and industrial education

**325 ENGINEERING**
326 aerospace and aeronautical engineering
327 agricultural engineering
328 air-conditioning engineering
329 architectural engineering
330 ceramic engineering
331 chemical engineering
332 civil engineering
333 construction and transportation
334 drafting
335 electrical engineering
336 engineering aide
337 engineering design
338 engineering sciences
339 industrial and management engineering
340 industrial laboratory technology
341 instrumentation technology
342 materials science
343 mechanical engineering
344 metallurgical engineering
345 mining and mineral engineering
346 naval architecture and marine engineering
347 nuclear technology
348 petroleum engineering
349 plastics technology
350 quality control technology
351 surveying
352 textile engineering

**375 ENGLISH AND LITERATURE**
376 creative writing
377 English
378 literature
379 speech

**400 ETHNIC STUDIES**
401 American Indian studies
402 Black studies
403 Mexican-American studies
404 Spanish-American studies

**425 FOREIGN LANGUAGES**
426 Classical languages
427 Eastern languages
428 French
429 German
430 interpreting/translating
431 Italian
432 linguistics
433 Russian
434 Spanish

**450 FORESTRY AND CONSERVATION**

**475 GEOGRAPHY**

**500 HEALTH AND MEDICAL PROFESSIONS**
501 dental assisting
502 dental hygiene
503 dental technology
504 health and safety
505 laboratory technology
506 medical assisting
507 medical records librarian
508 medical technology
509 nursing—practical
510 nursing—registered
511 occupational therapy
512 optometry
513 pharmacy
514 physical therapy
515 predentistry/dentistry
516 premedicine/medicine
517 preveterinary medicine/veterinary medicine
518 radiology and X-ray technology

**550 HISTORY AND CULTURES**
551 American
552 ancient
553 area and regional
554 European

**575 HOME ECONOMICS**
576 clothing and textiles
577 family relations
578 food and nutrition
579 infant and child care
580 institution management

**600 LIBRARY SCIENCE**

**625 MATHEMATICS**
626 statistics

**650 MILITARY SCIENCE**
651 air science
652 merchant marine
653 military science—army
654 naval science

**675 MUSIC**
676 composition and theory
677 instrumental music
678 music history
679 voice

**700 PHILOSOPHY AND RELIGION**
701 ministry
702 philosophy
703 religion
704 theology

**725 PHYSICAL SCIENCES**
726 astronomy
727 chemistry
728 earth science
729 geology
730 meteorology
731 oceanography
732 physical sciences
733 physics

**750 PSYCHOLOGY**
751 child psychology
752 experimental psychology
753 general psychology
754 social psychology

**775 SOCIAL SCIENCES**
776 anthropology
777 correction administration
778 economics
779 fire science
780 foreign service
781 government service/politics
782 industrial relations
783 international relations
784 law enforcement/police science
785 political science
786 prelaw/law
787 public administration
788 social work
789 sociology

**800 THEATER ARTS**
801 acting
802 dance
803 drama
804 theater arts

**825 TRADE AND VOCATIONAL**
826 airline hosting
827 automotive maintenance
828 aviation maintenance
829 building construction
830 carpentry
831 cosmetology
832 mortuary service

**900 OTHER**

**999 UNDECIDED**



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## APPENDIX D. CAREER CHOICES AND CAREER CHOICES MOST FREQUENTLY SELECTED

### Career Choices

| | *Number* | *Total* | *Percent* |
|---|---|---|---|
| *Arts and Humanities* | | 153 | 17.9% |
| Architecture | 6 | | |
| Art | 71 | | |
| Communications | 18 | | |
| English/Literature | 10 | | |
| Foreign Languages | 4 | | |
| Music | 16 | | |
| Philosophy and Religion | 2 | | |
| Theater Arts | 26 | | |
| *Biological Sciences* | | 228 | 27.3 |
| Agriculture | 7 | | |
| Biological Sciences | 14 | | |
| Forestry/Conservation | 1 | | |
| Health and Medical | 206 | | |
| *Business* | | 58 | 6.8 |
| Business | 58 | | |
| *Physical Sciences* | | 72 | 8.5 |
| Computer Science/Systems Analysis | 51 | | |
| Engineering | 13 | | |
| Mathematics | 3 | | |
| Physical Sciences | 5 | | |
| *Social Sciences* | | 164 | 19.1 |
| Education | 36 | | |
| History | 1 | | |
| Home Economics | 13 | | |
| Library Science | 1 | | |
| Military Science | 4 | | |
| Psychology | 54 | | |
| Social Sciences | 55 | | |
| *Trade and Vocational* | | 92 | 10.8 |
| Airline Hosting | 7 | | |
| Cosmetology | 47 | | |
| Secretarial Studies | 38 | | |
| *Undecided* | | 66 | 7.7 |
| *Other* | | 13 | 1.5 |

### Career Choices Most Frequently Selected

| | *Number* | *Percent* |
|---|---|---|
| 1. Undecided | 66 | 8% |
| 2. Registered Nursing | 65 | 8% |
| 3. Pre-med | 51 | 6% |
| 4. Cosmetology | 46 | 5% |
| 5. Pre-law | 39 | 5% |
| 6. Secretarial Studies | 38 | 4% |
| 7. Pre-vet | 29 | 3% |
| 8. Child Psychology | 28 | 3% |
| 9. Business Administration | 22 | 3% |
| 10. Data Processing | 22 | 3% |
| 11. Computer Science | 21 | 2% |
| 12. Physical Therapy | 20 | 2% |

Of 225 career choices offered, 111 career choices were selected by ninth-grade girls.



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## APPENDIX E.
## PERSONAL CHARACTERISTICS

Item 4. How do you describe yourself?

| | *Percentage* |
|---|---|
| American Indian | .6% |
| Black | 8.8 |
| Mexican-American | .1 |
| Oriental | 2.6 |
| Spanish-Speaking American | .9 |
| White | 82.8 |
| Other | 4.1 |

Item 5. What do you think is the highest level of education completed by each of your parents or guardians?

| | *Father* | *Mother* |
|---|---|---|
| Did not complete high school | 9.6% | 7.9% |
| Finished high school | 26.4 | 37.0 |
| Business or trade school | 4.2 | 5.2 |
| Some college | 7.3 | 11.7 |
| Finished college | 25.0 | 22.0 |
| Went to graduate school but did not finish | 1.8 | 2.7 |
| Has a graduate degree | 18.9 | 9.9 |
| Doesn't apply | 3.3 | .8 |

Item 6. What were your grades at the last school you attended?

| | *Percentage* |
|---|---|
| Mostly As | 16.3% |
| Mostly As and Bs | 34.3 |
| Mostly Bs | 15.4 |
| Mostly Bs and Cs | 22.3 |
| Mostly Cs | 6.7 |
| Mostly Cs and Ds | 4.1 |
| Mostly Ds | .9 |

Item 8. What is the highest level of education you plan to complete?

| | *Percentage* |
|---|---|
| Less than high school graduation | .4% |
| Graduate from high school | 6.9 |
| Vocational, technical, or business school | 12.3 |
| Junior college | 6.1 |
| Four-year college or university | 44.1 |
| Graduate or professional school | 29.7 |

Item 9. During the year after you leave high school, which of the following do you think will take up *most* of your time?

| | *Percentage* |
|---|---|
| Working | 12.9% |
| On-the-job training program | — |
| Military service | 1.8 |
| Homemaking | .5 |
| Vocational or technical school | 3.2 |
| Business school | 2.3 |
| Junior or community college | 4.0 |
| Four-year college or university | 62.0 |
| Other | 4.3 |
| Don't know | 8.9 |

Item 10. How important is it for you to learn about these things in high school?

| | *Mean* |
|---|---|
| 1. Preparing for jobs and careers | 2.830 |
| 2. Accepting and handling responsibility | 2.805 |
| 3. Mathematics | 2.726 |
| 4. Preparing for further education | 2.721 |
| 5. Solving problems and thinking clearly | 2.709 |
| 6. Getting along with people | 2.699 |
| 7. Developing confidence in myself | 2.693 |
| 8. English | 2.692 |
| 9. Managing money | 2.679 |
| 10. Thinking for myself | 2.633 |
| 11. Helping other people | 2.615 |
| 12. Health and safety | 2.574 |
| 13. Getting along with the opposite sex | 2.564 |
| 14. The difference between right and wrong | 2.548 |
| 15. Getting along with parents | 2.527 |
| 16. Becoming less dependent on parents | 2.444 |
| 17. Changes taking place in the world | 2.428 |
| 18. Finishing projects once they're started | 2.408 |
| 19. Enjoying learning new things | 2.346 |
| 20. Understanding people with different backgrounds | 2.335 |
| 21. Examining and using information | 2.316 |
| 22. Feeling proud of good work | 2.309 |
| 23. Sciences | 2.243 |
| 24. Computers | 2.242 |
| 25. Business subjects (like typing and bookkeeping) | 2.234 |
| 26. Being a good citizen | 2.221 |
| 27. Sex education | 2.199 |
| 28. Marriage and family life | 2.190 |
| 29. Being more creative | 2.130 |
| 30. Foreign languages | 2.067 |
| 31. Being a leader | 2.058 |
| 32. Social studies and history | 2.058 |
| 33. Using free time | 2.028 |
| 34. Politics | 1.784 |
| 35. Understanding and practicing democratic ideas | 1.778 |
| 36. Art and music | 1.732 |
| 37. Vocational subjects (like auto mechanics, home economics) | 1.701 |

Item 11. Students sometimes have problems in high school. How much of a problem do you expect these to be for you?

| | *Mean* |
|---|---|
| 1. Pressure to get good grades | 2.269 |
| 2. Improving study habits | 2.002 |
| 3. Classwork being too hard | 1.919 |
| 4. Choosing courses | 1.888 |
| 5. Improving math skills | 1.783 |
| 6. Getting into college | 1.775 |
| 7. Deciding what to do after high school | 1.737 |
| 8. Lack of privacy | 1.711 |
| 9. Other students making me feel bad | 1.544 |
| 10. Being pressured by other students to do something wrong | 1.458 |
| 11. Improving reading skills | 1.452 |
| 12. Staying out of trouble | 1.441 |
| 13. Physical education or gym class | 1.425 |
| 14. Deciding right from wrong | 1.382 |
| 15. School rules | 1.366 |
| 16. Finding friends | 1.335 |
| 17. Getting along with the opposite sex | 1.304 |
| 18. Alcohol | 1.298 |
| 19. Religion | 1.275 |
| 20. Drugs | 1.217 |
| 21. Getting along with students of different races | 1.214 |
| 22. Being beaten up by other students | 1.200 |



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## Appendix E continued

Item 12. How important are the following in your life?

| | Mean |
|---|---|
| 1. Being happy | 2.952 |
| 2. Standing up for my rights | 2.745 |
| 3. Making lifelong friendships | 2.702 |
| 4. Living my life my own way | 2.698 |
| 5. Understanding other people | 2.678 |
| 6. Helping others | 2.642 |
| 7. Being important and successful | 2.479 |
| 8. Making a lot of money | 2.366 |
| 9. Telling the truth even if it hurts other people's feelings | 2.347 |
| 10. Getting married | 2.276 |
| 11. Being creative | 2.173 |
| 12. Giving religion a place in my daily life | 2.126 |
| 13. Being active in politics | 1.383 |

Item 13. Indicate whether or not you would like to do these things or take part in these activities.

Item 14. For these same activities, how would your father or male guardian feel about your doing them?

| | Student Mean | Father Mean |
|---|---|---|
| 1. Stay in school and graduate | 2.988 | 2.968 |
| 2. Get high grades | 2.941 | 2.964 |
| 3. Learn to think for myself | 2.928 | 2.923 |
| 4. Develop my own interests and abilities | 2.886 | 2.902 |
| 5. Obey the rules of the school and community | 2.785 | 2.956 |
| 6. Go to college | 2.743 | 2.920 |
| 7. Be popular with other kids | 2.737 | 2.531 |
| 8. Sports | 2.538 | 2.666 |
| 9. Social clubs | 2.340 | 2.403 |
| 10. Arts and crafts | 2.176 | 2.332 |
| 11. Be active in art or music | 2.081 | 2.363 |
| 12. School plays | 2.035 | 2.421 |
| 13. School community-service projects | 2.005 | 2.387 |
| 14. Cheerleading or pep club | 1.973 | 2.183 |
| 15. Computer club | 1.921 | 2.473 |
| 16. Independent study groups or programs | 1.903 | 2.432 |
| 17. Faculty-student committees | 1.893 | 2.257 |
| 18. Music (choir, band, orchestra) | 1.890 | 2.350 |
| 19. Creative writing, school publications | 1.876 | 2.441 |
| 20. Student government | 1.858 | 2.379 |
| 21. Language club | 1.816 | 2.330 |
| 22. Go to a vocational, technical, or business school | 1.701 | 2.011 |
| 23. Religious activities | 1.669 | 2.296 |
| 24. Debating clubs | 1.584 | 2.270 |
| 25. Math club | 1.541 | 2.470 |
| 26. Science clubs (biology, physics, radio, etc.) | 1.514 | 2.272 |
| 27. Political activities | 1.381 | 2.151 |
| 28. Ecology club | 1.373 | 2.049 |

Item 15. Mothers are more supportive than fathers in 23 out of 28 activities. Mothers are slightly less supportive than fathers of sports (2.586), science clubs (2.268), computer club (2.459), math club (2.439), and political activities (2.126).

Item 18. How good do you think you are (compared to others at your school) in each of the following areas?

| | Mean |
|---|---|
| 1. Ability to make friends | 2.920 |
| 2. Common sense | 2.896 |
| 3. Imagination | 2.882 |
| 4. Ability to work independently | 2.800 |
| 5. Ability to relate to the opposite sex | 2.768 |
| 6. Self-discipline | 2.717 |
| 7. Ability to express my feelings | 2.680 |
| 8. Reading ability | 2.661 |
| 9. Knowledge of my own abilities | 2.640 |
| 10. Writing ability | 2.587 |
| 11. Ability to learn foreign languages | 2.438 |
| 12. Mathematical ability | 2.437 |
| 13. Ability to handle worries | 2.399 |
| 14. Physical development | 2.387 |
| 15. Athletic ability | 2.382 |
| 16. Leadership ability | 2.370 |
| 17. Artistic ability | 2.163 |
| 18. Dramatic ability | 2.059 |
| 19. Musical ability | 2.005 |
| 20. Scientific ability | 2.000 |
| 21. Mechanical ability | 1.685 |

Item 19. How much has each of the following been a *good* influence on your values and opinion about life?

| | Mean |
|---|---|
| 1. Mother (or female guardian) | 2.745 |
| 2. Student friends | 2.593 |
| 3. Father (or male guardian) | 2.538 |
| 4. Other members of the family | 2.460 |
| 5. Reading | 2.240 |
| 6. Teachers | 2.109 |
| 7. Films, TV, and plays | 2.089 |
| 8. Church or religion | 2.074 |
| 9. Other school courses | 2.012 |
| 10. School counselors | 1.784 |
| 11. Community services | 1.690 |
| 12. School courses in religion or ethics | 1.654 |



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## APPENDIX F. SCHOOL AND PARENTAL CHARACTERISTICS

Item 16. Even though you are new to this school, do you think the following are generally true or generally false about this school?

| | Mean |
|---|---|
| 1. The school believes learning is very important. | 2.879 |
| 2. Students are friendly. | 2.844 |
| 3. There are a lot of good activities outside of class. | 2.736 |
| 4. Students can feel comfortable at this school. | 2.730 |
| 5. There is a lot of school spirit. | 2.725 |
| 6. There is active social life. | 2.725 |
| 7. The school has good teachers. | 2.678 |
| 8. The school makes students think. | 2.676 |
| 9. Teachers are friendly. | 2.655 |
| 10. The physical education or gym courses are good. | 2.505 |
| 11. The music, art, and drama courses are good. | 2.435 |
| 12. The school provides ways for students to serve the community. | 2.305 |
| 13. Students can study what they like on their own. | 2.266 |
| 14. There's a lot of competition for grades. | 2.141 |
| 15. There are very strict rules. | 1.767 |
| 16. The school is too concerned about manners and dress. | 1.618 |
| 17. Students are treated like numbers. | 1.368 |

See also the following items:
Item 5. Father's level of education
Item 5. Mother's level of education
Item 14. Father's support of activities and intermediate goals
Item 15. Mother's support of activities and intermediate goals
Item 19. Influences on values and opinions

## APPENDIX G. DISCRIMINATING CHARACTERISTICS

The personal, parental, and school characteristics (30) that enable one to distinguish among students choosing various career groups are listed below.

*Learn* (8)
- Sciences
- Art and Music
- Marriage and Family Life
- Business Subjects (like typing and bookkeeping)
- Getting Along with the Opposite Sex
- Computers
- Mathematics
- Managing Money

*Activities* (4)
- Computer Club
- Math Club
- Science Clubs
- Go to a Vocational, Technical, or Business School

*Competencies* (3)
- Dramatic Ability
- Mathematical Ability
- Artistic Ability

*Values* (3)
- Being creative
- Understanding other people
- Making a lot of money

*Parental Support of Activities* (6)
- Father's Support of Student Government
- Father's Support of Creative Writing
- Father's Support of Community Service
- Father's Support of Math Club
- Mother's Support of Arts and Crafts
- Mother's Support of Going to College

*Father's Level of Education* (1)

*Perceptions of School Environment* (3)
- There are a lot of good activities outside of class.
- There is a lot of school spirit.
- The school has good teachers.

*School Size* (1)

*School's College-Bound Population* (1)

Twenty-one (21) variables provide half (52 percent) the power to discriminate among the career groups. Nine (9) variables provide an additional 28 percent of the discriminating power. Thus, a reasonable number of characteristics (30) accounts for 80 percent of the distinctions among girls in the five career groups.



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